CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 94-183

SITE CLEANUP REQUIREMENTS FOR:

PEERY/ARRILLAGA

for the property at

1098 ALTA AVENUE
MOUNTAIN VIEW
SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board), finds that:

1. Site Location: 1098 Alta Avenue (site) is located in Mountain View, in an area known as North Bayshore. North Bayshore is surrounded by Permanente Creek to the west, Shoreline Amphitheater and Mountain View Landfill to the north, Armand Avenue to the east, and Highway 101 to the South (see attached map).

2. History of Ownership and Site Use: Peery/Arrillaga (P/A) purchased five individual parcels of land during the latter part of 1984 and early 1985 which comprise the five acre parcel known as 1098 Alta Avenue site located on the corner of Alta Avenue and Charleston (see location map). P/A redeveloped the site in 1988, and constructed an 80,000 square feet office building on the site.

   Information currently available to the Board on past site activities is incomplete. Technical reports requested pursuant to Water Code Section 13267 may provide additional information on this subject. The Board's knowledge of previous owners and operators of the site is limited to the period between the time Peery/Arrillaga purchased the property (1984/85) and when they redeveloped it (1988). The information available to the Board on previous owners and past usage is summarized below.

   Property #1: This property was previously owned by Shirley D. Nevis. It was purchased by Peery/Arrillaga on 9/18/84 and was a vacant yard used for the office and house-moving operations of Anderson/Nevis House Movers. The business was sold to Jack Daggett later on. Following the date of purchase the property was subleased to Ernie's Auto Wreckers for about a year prior to commencement of construction, for storing cars.

   Property #2: This property was previously owned by Jack Small, and it had two residences on it.

Parcel #3: This property was previously owned by Paul Shogren. This parcel was leased immediately after it was purchased by Peery/Arrillaga on 12/14/84. The tenant, Alan Hakala, owned "Finishing Touches", an auto body refinishing shop. Alan Hakala subleased portions of the property to various subtenants, including a racetrack for small model cars, which occupied the corner of Charleston and Alta, a scaffold construction firm, and a towing company for the storage of their impounded cars. There were two underground fuel tanks located on this parcel. The tanks were removed later in 1985.

Property #4: This property was previously owned by Helen Nagli-Colombini. This portion of the property fronting on Alta had two houses on it. Following the purchase the property was leased for a short time to a business that performed testing of satellite equipment.

Property #5: This property was previously owned by Dai Chew, and had a residence on it.

3. Regional Hydrogeology. The site is located between San Francisco Bay and the northwest-trending Santa Cruz Mountains in the northern portion of Santa Clara Valley. The Santa Cruz Mountains are comprised of sequences of the Franciscan Complex including graywacks, dark shales, greenstones, and cherts. The mountains are the source of 1,000 to 1,500 feet of alluvial accumulations in the lowland plains of Santa Clara Valley. Subsurface geology in the gently, north-sloping lowlands is comprised of complex alluvial sequences including fluvial and interfluvial basin deposits. Primarily, clays, silts, and fine-grained sands were deposited beneath the plains. Holocene sediments at the Alta Avenue area generally consist of fine-grained alluvium deposited in the interfluvial basin between Permanente Creek and Stevens Creek. The sediments interfinger with and grade into bay mud or medium-grained alluvium. Two major water- yielding beneath the site consist of an upper aquifer and a deep aquifer. The deeper aquifer extends from approximately 150 to 1,000 feet below surface and consists of a number of discontinuous permeable zones. The deeper aquifer is overlain by 50 to 150 feet of marine silty clay, constituting a confining zone. The confining zone separates the two major aquifers.

The upper aquifer overlies the confining zone and consists of approximately 70 feet of silty clay and clayey silt, interbedded with discontinuous sand and gravel lenses. The upper aquifer is subdivided into an intermediate zone and a shallow zone, separated by a 10 to 15 foot clay layer, which correlates with the semi-consolidated member of the Younger Bay Mud. The shallow aquifer zone is up to 10 feet thick and extends from approximately 5 feet below grade to about 20 feet below grade. It consists of organic-rich clay and clayey silt, often including two separate sand layers of some lateral extent.

The intermediate zone extends from about 30 to about 70 feet below grade consisting of sand and gravel layers, interbedded with clay and silt.

Based on recent and historical water level data from wells in the North Bayshore area,

the regional groundwater flow direction is north-northwest to north-northeast.

4. Site Hydrogeology

Soil encountered to a depth of 20 feet below surface generally consisted of silty clay and clayey silt with two interbedded layers of silty sand. The sand layers contained varying amounts of gravel and clay. The sand layers were relatively extensive and continuous over the area but vary in depth, and thickness. The shallower sand layer occurs between approximately 5 and 10 feet below surface ("A" sand layer), and the deeper sand layer occurs between 17 and 20 feet below surface ("B" sand layer). The depth of the B sand layer is relatively consistent throughout the western part of the site at 18 to 20 feet below surface.The intermediate zone is separated from the shallow zone by 10 to 15 feet of clay. The shallow zone is underlain by approximately 10 to 15 feet of clay, silty clay, and clayey silt. Beneath this aquitard, a sequence of clay and silty clay interbedded with gravelly sand and silty gravel extends to at least 45 feet below surface. The sequence correlates with the upper part of the intermediate zone.

Groundwater at the Alta site occurs at a depth of about 7 to 9 feet below surface. The groundwater flow direction across much of the site is currently north-northeast, whereas the natural regional groundwater flow direction is to the north-northwest.

5. Investigation and Interim Remedial Measures

This site has been identified as a source of VOC contamination based primarily on soil and groundwater data. Past land use in the area also is a determining factor. Data collected to date points to a source in the northwestern corner of the property. The data shows an average total VOC concentrations of 272 and 13 μg/l in shallow and intermediate upgradient wells respectively, versus 310 and 2492 μg/l in onsite shallow and intermediate wells respectively. Furthermore, soil data as recent as May of 1993, from the northwestern portion of the site indicates TCE concentrations of 7.6 ppm, cis 1,2 DCE concentrations of 1.5 ppm, 1,1,1 TCA of 1.3 ppm and Tetrachloroethene of 1.3 ppm (total VOCs of 11.7 ppm) in the top 2.5 feet of the soil. The soil data confirms the existence of VOC contamination in soil in the northwestern corner of the site. VOC contamination in soil is sufficient to cause leaching and pollution of the underlying groundwater.

The two major VOCs in groundwater are TCE and cis-1,2-DCE. However, other more toxic VOCs such as Vinyl Chloride and PCE, have also been detected in some of the wells. The highest concentrations have been detected in well PA-7 in the northwestern corner of the site.

Past land use in this area has been light industrial. Aerial photographs of the area show that this area has been used for activities such as auto repair and wood preserving. Solvent use is commonly associated with these activities.

Onsite soil and groundwater contamination have been characterized. The results are reported in the three Site Characterization Reports, the Intermediate Zone Soil and Groundwater Testing Report, and the March 15, 1994 Report on Additional Investigations.

Peery/Arrillaga has performed groundwater investigation downgradient of the site to determine the lateral and vertical extent of the groundwater contamination, but the results have not been reported yet.

Peery/Arrillaga performed groundwater investigation indicating that in addition to an onsite VOC source some TCE and cis-1,2-DCE is entering the site from upgradient. The result of this investigation is reported in the March 15, 1994 Report.

No soil or groundwater remediation has taken place yet. This Order establishes requirements for completing the groundwater investigation, and initiating interim remediation.

Peery/Arrillaga has submitted the following reports to the Regional Board for 1098 Alta:

Date Submitted	Report Title
May 31, 1991	Site Characterization Report
October 11, 1991	Phase II Site Characterization Report
September 4, 1992	Phase III Site Characterization Report
March 31, 1993	Intermediate Zone Soil and Groundwater Testing
April 9, 1993	Offsite Monitoring Well Installation
March 15, 1994	Results of Additional Investigations and Implementation of Cleanup and Abatement Order No. 92-004
May 9, 1994	Workplan for Interim Remedial Measures for Soils and Proposal for Offsite Groundwater Investigations
September 1, 1994	Workplan for Downgradient Offsite Groundwater Investigation and Interim Remedial Measures for Groundwater

6. Named Dischargers

Peery/Arrillaga is named as a discharger because it is the current owner of the site. If

additional information is submitted indicating that other parties caused or permitted any waste to be discharged on the site where it entered or could have entered waters of the State, the Board will consider adding that party's name to this Order.

7. Groundwater Investigation and Remediation in North Bayshore

Teledyne Semiconductor Inc. (Teledyne) and Spectra-Physics Lasers Inc. (Spectra-Physics), two Superfund sites, and the Montwood site are located south of and upgradient of the Alta site. Teledyne and Spectra-Physics are being regulated pursuant to Site Cleanup Requirements in Order 91-025. Montwood is being regulated pursuant to Site Cleanup Requirements in Order 93-005. The on-site system at Teledyne has been controlling migration of volatile organic compounds (VOCs) from the Teledyne and Spectra-Physics area since 1986. Ground water flow direction in the Teledyne/Spectra-Physics/Montwood area is generally to the north.

The off-site Teledyne/Spectra-Physics groundwater plume extends about one mile north to the City of Mountain View landfill. Teledyne and Spectra-Physic's off-site groundwater treatment system, known as the North Bayshore Extraction System, is comprised of 17 extraction wells located in the North Bayshore Area. The System has been in operation since January of 1990, containing the regional plume ever since. This system does not capture the plume originating at 1098 Alta. Prior to 1990, this plume may have impacted 1098 Alta Avenue site.

Montwood's plume is within the plume that originated at Teledyne/Spectra-Physics. This plume has been within the capture zone of the treatment system installed by Teledyne/Spectra-Physics in January of 1990. Montwood has added extraction wells to the North Bayshore System to remediate the plume originating at their site. The plume originating at Montwood has migrated offsite through the years, and it may have impacted downgradient sites such as 1098 Alta.

8. The extraction systems in the North Bayshore Area does not appear to be reducing the VOC concentrations at 1098 Alta. Chemical concentrations in most of the wells have been either increasing or have stayed fairly constant. None of the wells show any significant decrease in concentration. Since the plume has not been contained, it is likely to have migrated offsite.

9. Board Orders. 1098 Alta is currently under Cleanup & Abatement Order (CAO) No. 92-004 issued on January 17, 1992, and amended on December 8, 1992. The CAO and its amendment found that 1098 Alta is a source of soil and groundwater pollution and required the discharger to fully define the extent of contamination at their site, and propose and implement mitigation measures.

10. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 17, 1986. The Board amended the Basin Plan on

December 11, 1991. The Basin Plan contains water quality objectives for the South San Francisco Bay and contiguous surface and ground waters.

11. The Basin Plan defines existing and potential beneficial uses of the ground water underlying and adjacent to the dischargers' facilities. These include:

    a. Industrial process water supply
    b. Industrial service supply
    c. Agricultural supply
    d. Municipal and domestic supply

    Upper aquifer groundwater underlying and adjacent to the site is not currently used for any of the above purposes.

12. The discharger has caused or permitted waste to be discharged or deposited where it is or probably will be discharged to waters of the State and creates or threatens to create a condition of pollution or nuisance.

13. Pursuant to Section 13304 of the Water Code, the discharger is hereby notified that the Regional Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Regional Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order.

14. This action is an Order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of CEQA pursuant to Section 15321 of the Resources Agency Guidelines.

15. The Board has notified the dischargers and all interested agencies and persons of its intent under California Water Code Section 13304 to prescribe Site Cleanup Requirements for the dischargers and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

16. The Board, at a public meeting, heard and considered all comments pertaining to this discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the discharger shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

    1. The discharge of wastes or hazardous materials in a manner which will degrade water quality or adversely affect beneficial uses of the waters of the State is prohibited.

2. Further significant migration of pollutants through subsurface transport to waters of the State is prohibited.

3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of pollutants are prohibited.

B. SPECIFICATIONS

1. The storage, handling, treatment or disposal of polluted soil or groundwater shall not create a nuisance as defined in Section 13050(m) of the California Water Code.

2. The discharger shall conduct site investigations and monitoring activities as determined by the Executive Officer to define the current local hydrogeological conditions, and the lateral and vertical extent of the soil and groundwater pollution. Should monitoring results show evidence of pollution migration, additional plume characterization of pollutant extent may be required.

3. The discharger shall propose and implement soil and groundwater remediation measures according to the provisions of this Order.

C. PROVISIONS

1. Cleanup and Abatement Order No. 92-004 and its December 8, 1992 amendment are hereby rescinded.

2. The discharger shall perform all investigations and remedial work in accordance with requirements of this Order.

3. The discharger shall submit to the Board acceptable monitoring program reports containing results of work performed according to the attached self-monitoring program.

4. The discharger shall comply with all Prohibitions and Specifications of this Order, in accordance with the following schedule and tasks:

   a. TASK 1: Groundwater Conservation
   COMPLETION DATE: February 1, 1995

   Submit a technical report acceptable to the Executive Officer which documents compliance or intent to comply with Board Resolution No. 88-160, "Regional Board Position on the Disposal of Extracted Groundwater From Groundwater Cleanup Projects."

b. TASK 2: Results of Off-Site Investigation
COMPLETION DATE: January 1, 1995

Submit a technical report acceptable to the Executive Officer that documents the results of the off-site investigation. The investigation shall be conducted in accordance with Peery/Arrillaga's proposal of September 1, 1994, and the Regional Board's conditional approval of September 26, 1994. The report shall include, but not be limited to the following information, if applicable: new soil borings and groundwater monitoring well installation logs; copies of new well installation permits; tabulated results of soil and groundwater pollutant analyses; appropriately scaled maps; soil boring and groundwater monitoring well locations; site-specific geologic cross sections; explanation of off-site vertical and lateral extent of the soil and groundwater pollution; an evaluation of potential conduits for the vertical migration of pollutants; description of site hydrogeologic conditions; evaluation of the extent to which soil pollution may be contributing to groundwater pollution; and submittal of off-site Phase II workplan if deemed necessary.

c. TASK 3: Workplan for Offsite Interim Groundwater Remediation
COMPLETION DATE: August 1, 1995

Submit a technical report acceptable to the Executive Officer which proposes off-site interim remedial actions. The report shall include, but not be limited to, the following information: an evaluation of the existing groundwater treatment systems in the area and their impacts on the plume originating at 1098 Alta; rationale for any proposed extraction well location; well data such as diameter, depth, and screen interval; an estimate of the capture zone that will be achieved; extraction rate; an evaluation of interaction with the North Bayshore Extraction System; and a schedule of implementation.

d. TASK 4: Startup of Offsite Interim Groundwater Remediation
COMPLETION DATE: According to Schedule in Task 3 Approved by the Executive Officer

Submit a technical report acceptable to the Executive Officer documenting the completion and startup of the offsite groundwater remediation system. The report shall include, but not be limited to the following information: as built drawings of the system; analytical results for chemicals of concern; water level data; a map of the measured capture zone; plume maps; and a discussion of how the system interacts with the North Bayshore Extraction System.

e. TASK 5: Startup of Onsite Interim Groundwater Remediation
COMPLETION DATE: May 1, 1995

Submit a technical report acceptable to the Executive Officer which documents the completion and startup of the onsite interim remedial measures for onsite groundwater pollution. The system shall be implemented in accordance with Peery/Arrillaga's proposal of September 1, 1994, and the Regional Board's conditional approval of September 26, 1994. All the conditions cited in the September 26 approval shall be met prior to implementation, except for the February 1, 1995 schedule for starting up the system. The schedule for starting up the system shall be **FEBRUARY 21, 1995.** The report shall include, but not be limited to the following information: as built drawings of the system; analytical results for chemicals of concern; water level data; a map of the measured capture zone; and plume maps.

f. TASK 6: Startup of Interim Soil Remediation
COMPLETION DATE: May 1, 1995

Submit a technical report acceptable to the Executive Officer documenting the completion and startup of the interim soil remediation system approved pursuant to CAO 92-004. The soil remediation system shall be implemented according to Peery/Arrillaga's proposal of May 9, 1994, and Regional Board's approval of May 25, 1994. The system shall start operation by **FEBRUARY 21, 1995.** The report shall include, but not be limited to the following information: as built drawings of the soil vapor extraction system; analytical results for chemicals of concern; mass of chemicals removed, and projected mass of chemicals to be removed.

g. TASK 7: Evaluate and Propose Final Remediation Plan
COMPLETION DATE: February 1, 1996

Submit a technical report acceptable to the Executive Officer which contains a plan for the proposed final remedial actions and implementation schedule. The report shall evaluate the effectiveness of the interim remedial actions which have been implemented. The report shall identify polluted soils and groundwater and evaluate the need for alternatives for cleaning up the polluted soils, and controlling the migration of the groundwater pollution plume. The report shall include a projection of the cost, effectiveness, benefits, and impact on public health, welfare, and environment for each alternative. The proposed remedial alternatives shall

reduce the volume, mobility, and toxicity of pollutants. The remedial action plan shall consider the guidance provided by Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR part 300); Section 25356.1 (c) of the California Health and Safety Code; CERCLA guidance documents with reference to Remedial Investigation, Feasibility Studies, and Removal Actions; and the State Water Resource Control Board's Resolution No. 68-16, " Statement of Policy with Respect to maintaining High Quality of Waters in California." Cleanup standards shall consider a risk-based approach for all pollutants that may remain in soil or groundwater. The report shall also include a schedule for tasks and time schedule for implementation of the recommended remedial actions.

5. The discharger shall be liable, pursuant to Section 13304 of the Water Code, to the Board for all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order. If the site addressed by this Order is enrolled in a State Board-managed reimbursement program, reimbursement shall be made pursuant to this Order and according to procedures established in that program. Any disputes raised by the discharger over the reimbursement amounts for methods used in that program shall be consistent with the dispute resolution procedures of that program.

6. If the discharger is delayed, interrupted or prevented from meeting one or more of the completion dates specified in this Order, the discharger shall promptly notify the Executive Officer. In the event of such delays, the Board may consider modifications of task completion dates established in this Order.

7. All hydrogeological plans, specifications, reports and documents shall be signed by or stamped with the seal of a registered geologist, engineering geologist or professional engineer.

8. All samples shall be analyzed by State certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control records for Board review.

9. The discharger shall maintain in good working order, and operate as efficiently as possible, any facility or control system installed by the dischargers to achieve compliance with the requirements of this Order.

10. Technical reports submitted under Tasks 1, 2, 3, 4, 5 ,6 and 7 should be provided to Teledyne, Spectra-Physics, and Montwood. These companies operate remedial systems in the North Bayshore Area, therefore, work performed at the Alta Site

may impact their systems. Teledyne, Spectra-Physics and Montwood may submit comments on the reports to the Regional Board within one month after the receipt of the report.

Copies of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order shall be provided to the following agencies:

a. Santa Clara Valley Water District (Tom Iwamura)

The discharger shall provide copies of cover letters, title page, table of contents and the executive summaries of above compliance reports to the following agencies:

a. Santa Clara County Health Department (Lee Esquibel)
b. California EPA/DTSC Site Mitigation Branch (Barbara Cook)
c. City of Mountain View, City Manager's Office

The Executive Officer may require the discharger to provide copies to other parties, such as the U.S. Environmental Protection Agency, Region IX, and the local repository for public use.

11. The discharger shall permit the Board or its authorized representatives, in accordance with Section 13267 (c) of the California Water Code, access to copy any records required to be kept under the terms and conditions of this Order.

12. If any hazardous substance is discharged in or on any waters of the State, or discharged and deposited where it is, or probably will be discharged in or on any waters of the State, the discharger shall report such discharge to this Board, at (510) 286-1255 on weekdays during office hours from 8 AM to 5 PM, and to the Office of Emergency Services at (800) 852-7550 during non-office hours. A written report shall be filed with the Board within five (5) working days and shall contain information relative to: the nature of the waste or pollutant, quantity involved, duration of incident, cause of spill, Spill Prevention, Control and Countermeasure Plan (SPCC) in effect, if any, estimated size of affected area, nature of effects, corrective measures that have been taken or planned, and a schedule of these activities, and persons, notified.

13. The Board will review this Order periodically and may revise the requirements when necessary.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San

Francisco Bay Region, on December 14, 1994.

Steven R. Ritchie
Executive Officer

Attachments: Figure 1, Site Map
Self-Monitoring Program

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

GROUNDWATER SELF-MONITORING PROGRAM

FOR

PEERY/ARRILLAGA
1098 ALTA AVENUE
MOUNTAIN VIEW, SANTA CLARA COUNTY

ORDER NO. 94-183

Adopted on December 14 , 1994

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

PEERY ARRILLAGA
1098 ALTA AVENUE SITE

GROUNDWATER SELF-MONITORING PROGRAM

A. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13268, 13383 and 13387(b) of the California Water Code and this Regional Board's Resolution No. 73-16.

The principal purposes of a monitoring program by a waste discharger, also referred to as self-monitoring program, are: (1) to document compliance with waste discharge requirements and prohibitions established by this Regional Board, (2) to facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of effluent or other limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards, and (4) to prepare water and waste water quality inventories.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to the EPA Method 8000 series in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," dated November 1986; or other methods approved and specified by the Executive Officer of this Regional Board.

C. REPORTS TO BE FILED WITH THE REGIONAL BOARD

1. Violations of Requirements

In the event the discharger is unable to comply with the conditions of the site cleanup requirements due to:

a. Maintenance work, power failures, or breakdown of waste treatment equipment, or

b. accidents caused by human error or negligence, or

c. other causes, such as acts of nature, or

d. poor operation or inadequate system design,

The discharger shall notify the Regional Board office by telephone as soon as he/she or his/her agents have knowledge of the incident and confirm this notification in writing within 5 working days of the telephone notification. The written report shall include time, date, and person notified of the incident. The report shall include pertinent information explaining reasons for the noncompliance, magnitude of incident, and steps taken to mitigate and prevent the problem from recurring.

2. The discharger shall file a written technical report to be received at least 30 days prior to advertising for bid (or 60 days prior to construction) on any construction project which would cause or aggravate the discharge of waste in violation of requirements; said report shall describe the nature, cost, and scheduling of all action necessary to preclude such discharge.

3. Self-Monitoring Reports

Written reports shall be filed regularly for each calendar quarter (unless specified otherwise) and filed no later than the thirtieth day of the following quarter. The first quarterly report is due January 30, 1995. The reports shall be comprised of the following:

a. Letter of Transmittal:

A letter from the discharger transmitting self-monitoring reports should accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period and actions taken or planned for correcting any requirement violations. If the discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to this correspondence will be satisfactory. Monitoring reports and the letter transmitting reports shall be signed by a principal executive officer or a duly authorized representative of that person.

The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true and correct.

b. Results of Analyses and Observations

(1) Tabulated quarterly and historical water quality and water level data shall be submitted in the quarterly self-monitoring reports. Results of any additional analyses performed by the dischargers shall also be submitted.

(2) Quarterly reports shall include updated isoconcentration maps for

chemicals of concern including but not limited to TCE, cis-1,2-DCE, and total VOCs. Quarterly updated piezometric surface maps, based on the most recent water level measurements for all affected water bearing zones (all onsite and offsite wells) shall also be include.

(3) The quarterly reports shall include the groundwater extraction rates from each extraction well, water level data from the extraction wells and monitoring wells, and the results of any aquifer tests conducted during the quarter.

(4) The quarterly reports shall include a discussion of unexpected operational changes which could affect performance of the extraction system, such as flow fluctuations, maintenance shutdown, etc.

(5) The quarterly report shall also identify the analytical procedures used for analyses either directly in the report or by reference to a standard plan accepted by the Executive Officer. Any special methods shall be identified and should have prior approval of the Board's Executive Officer.

(6) The discharger shall describe in the quarterly Self-Monitoring Report (SMR) the reasons for significant increases in a pollutant concentration at a well. The description shall include:

a) the source of the increase,

b) how the discharger determined or will investigate the source of the increase, and

c) what source removal measures have been completed or will be proposed.

(7) Original lab results shall be retained and shall be made available for inspection for six years after origination or until after all continuing or impending legal or administrative actions are resolved.

(8) Summary of work completed since submittal of the previous report, design specifications if applicable, and work projected to be completed by the time of the next report.

(9) A map or maps shall accompany the quarterly report, showing all sampling locations and plume maps.

(10) The annual report shall be combined with the fourth quarter regular report and shall include cumulative data for the current year. The annual report for December shall also include minimum, maximum, median, and average water quality data for the year, and a summary of water level data. The report shall contain both tabular and graphical summaries of historical monitoring data.

4. SMP Revisions:

Additional long term or temporary changes in the sample collection frequency and routine chemical analysis may become warranted as monitoring needs change. These changes shall be based on the following criteria and shall be proposed in a quarterly SMR. The changes shall be implemented no earlier than 45 days after the self-monitoring report is submitted for review unless approved in writing.

Criteria for SMP revision:

(1) Discontinued analysis for a routine chemical in a specific well after a two-year period of below detection limit values for that chemical.

(2) Changes in sampling frequency for a specific well after a two-year period of below detection limit values for all chemicals of concern in that well.

(3) Temporary increases in sampling frequency or changes in requested chemical parameters for a well or group of wells because of a change in data needs (e.g., evaluating ground water extraction effectiveness or other remediation strategies).

(4) Add routine analysis for a chemical parameter if the parameter appears as an additional chromatographic peak in three consecutive samples from a particular well.

(5) Alter sampling frequency based on evaluation of collective data base.

D. SAMPLING

All existing and future shallow, intermediate and deep aquifer monitoring and extraction wells shall be monitored quarterly, using EPA Method 8240 or 8010.

E. SCHEDULE OF SAMPLING AND ANALYSES

1. All existing wells shall be sampled according to Table 1 and tested by EPA Method 8010. EPA Method 8240 shall replace EPA Method 8010 for all the wells during the second quarter of each year. Sampling and monitoring shall be

coordinated with other parties performing investigations in the North Bayshore Area including Teledyne, Spectra-Physics, and Montwood.

TABLE 1
Monitoring Schedule
(Existing Wells)

SHALLOW ZONE
Quarterly
PA-1
PA-2
PA-3
PA-4
PA-5
MW-1
MW-2
INTERMEDIATE ZONE
Quarterly
PA-6
PA-7

2. If a previously undetected compound or peak is detected in a sample from a well, a second sample shall be taken within a week after the results from the first sample are available. All chromatographic peaks detected in two consecutive samples shall be identified and quantified in the quarterly report.

3. Groundwater elevations shall be obtained on a quarterly basis from all wells at the site and submitted in the quarterly report with the sampling results. This activity shall be coordinated with other parties performing investigations in the North Bayshore Area including Teledyne, Spectra-Physics, and Montwood.

4. Well depths shall be determined on an annual basis and compared to the depth of the well as constructed. If greater than ninety percent of screen is covered, the discharger shall clear the screen by the next sampling.

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring

Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with site cleanup requirements established in Regional Board Order No. 94-183.

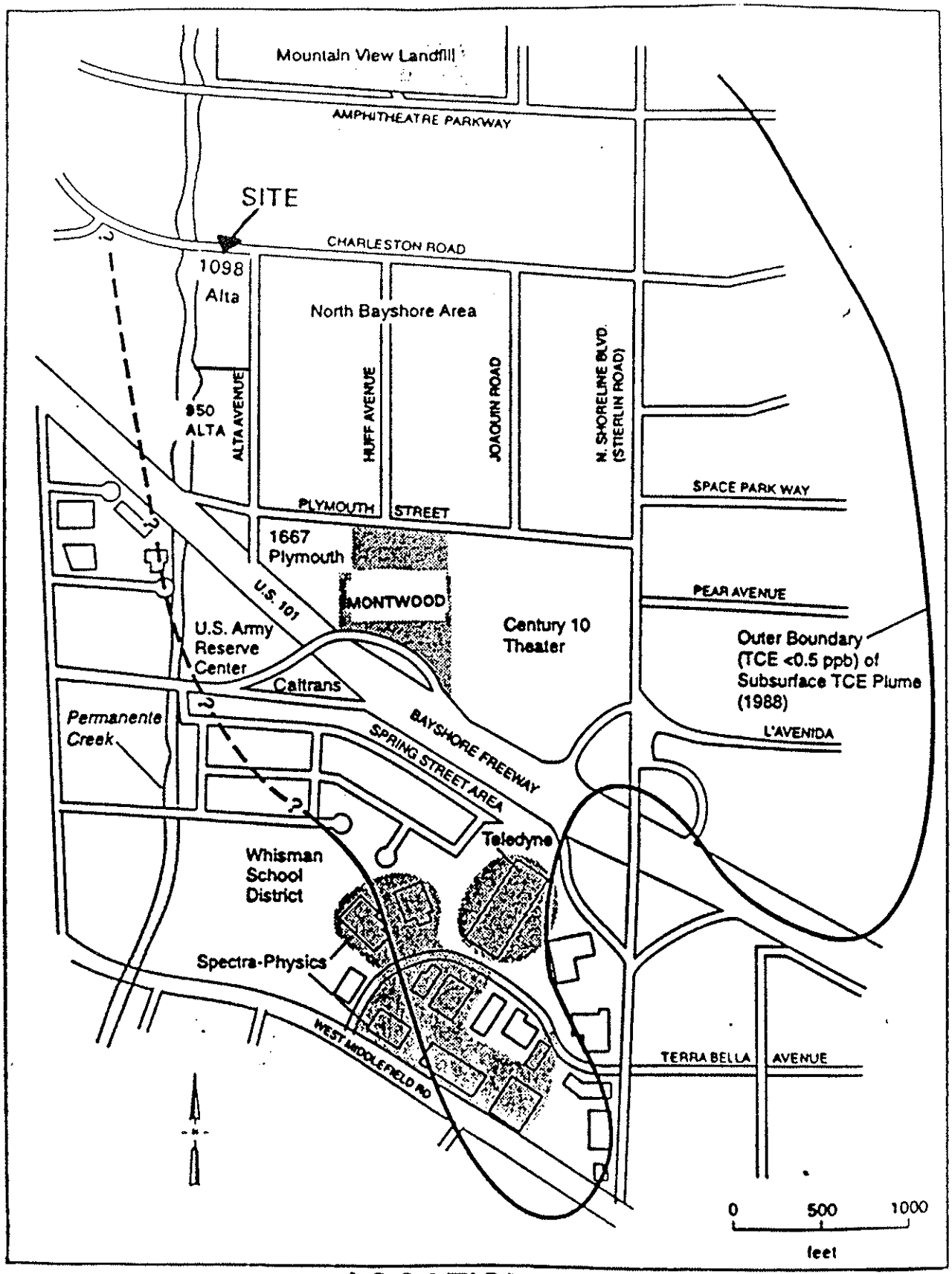
2. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger, and revisions will be ordered by the Executive Officer or Regional Board.

3. Was adopted by the Board on December 14, 1994.

12/14/94
Date

Steven R. Ritchie
Executive Officer

Attachment: Location Map



LOCATION MAP

FIGURE 1